

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Kindly cancel claims 1-25.

Please add the following claims:

26. (New) A method of pre-distorting a signal of a satellite transmission link, said signal being modulated to carry symbols representative of digital data, so as to offset later distortion of the signal during transmission across the satellite transmission link, said link having root Nyquist bandpass filters in respective up and down links, the method including passing the signal through a cascade of identical pre-distorting stages, each of which generates an approximation of the required pre-distortion, each successive stage receiving the approximation from the preceding stage in an iterative fashion so that errors in successive approximations converge toward zero with increase in the number of stages.

27. (New) The method of Claim 26, wherein the transmission link has a particular bandwidth and wherein the signal is passed through a cascade of pre-distorting stages, each of which generates an approximation of the required pre-distortion within the said bandwidth.

28. (New) The method of claim 26, wherein said signal is applied to a forward model representative of the distortion of the satellite transmission link, an output of the forward model is added with said signal to provide an error signal, said error signal is amplified and further summed with said signal to provide an input to a next succeeding stage.

29. (New) The method of claim 26, wherein said signal is passed through an initial approximator prior to passage through successive approximation stages.

30. (New) The method of claim 29, wherein the initial approximator comprises a static pre-distortion approximation function.

31. (New) The method of claim 26, wherein the signal is modulated in accordance with 16 QAM.

32. (New) The method of claim 26, wherein the signal is modulated in accordance with 32 QAM.

33. (New) The method of claim 26, wherein the signal is modulated in accordance with 16 PSK.

34. (New) A satellite transmission link including root Nyquist bandpass filters in respective up and down links and apparatus for pre-distortion of a signal, modulated to carry symbols representing digital data, so as to offset later distortion of the signal during transmission across said links, the apparatus comprising a cascade of identical pre-distorting stages, each said stage having means to generate an approximation of the required pre-distortion, and each successive stage being connected to receive the approximation from the preceding stage so that the errors in successive approximations converge toward zero with increase in the number of stages.

35. (New) A link according to claim 34, wherein the transmission link has a particular bandwidth, and wherein each pre-distorting stage is arranged to generate an approximation within the said bandwidth.

36. (New) A link as claimed in claim 34, wherein each pre-distorting stage includes a forward model representative of the distortion of the satellite transmission link arranged to receive said signal, a summer to add an output of said forward model with said signal to provide an error signal, an amplifier to amplify said error signal, and an output of said amplifier being applied to a further summer to add an output of said amplifier with said signal, wherein an output of said further summer may be applied as input to a forward model of a next succeeding stage.

37. (New) A link as claimed in claim 34, wherein an initial approximator is connected to provide input to a first of said pre-distorting stages.

38. (New) A link as claimed in claim 12, wherein the initial approximator comprises a static pre-distortion approximation model.

39. (New) A link as claimed in claim 34, wherein the signal is modulated in accordance with 16 QAM.

40. (New) A link as claimed in claim 34, wherein the signal is modulated in accordance with 32 QAM.

41. (New) A link as claimed in claim 34, wherein the signal is modulated in accordance with 16 PSK.

42. (New) A link as claimed in claim 34, wherein six successive approximation stages are provided.

43. (New) A link as claimed in claim 38, wherein one static pre-distortion and three successive approximation stages are provided.

44. (New) A link as claimed in claim 34, wherein a feedback control loop is provided from the satellite transmission link to the cascade of pre-distorting stages.

45. (New) A link as claimed in claim 44, wherein the feedback control loop includes a receiver to receive signals transmitted by a satellite, a constellation analyser to generate error signals produced by the receiver, which error signals are representative of a displacement of constellation points in the signal, the constellation analyser to provide output to a processor to produce non-linear characteristics as an input to said apparatus.